

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks.

At the outset, the Applicant would like to thank the Examiner for the courtesies extended during a telephone interview with the Applicant's undersigned representative on April 30, 2009, the substance of which is set forth below. During the April 30, 2009 telephone interview, proposed new independent claims 31-34 as well as the primary reference, U.S. Patent No. 5,775,417 to Council were discussed.

The claims are 3-23 and 25-34. Independent claims 1 and 24 have been canceled without prejudice and new independent claim 31, 32, 33 and 34 have been added to more clearly define the invention. New independent claims 31-34 include the features as presented to the Examiner during the April 30, 2009 telephone interview as well as additional features which have been added to more clearly define the inventive drawing machine and method. Support for new independent claim 31-34 may be found, *inter alia*, in the claims as filed, in drawing FIGS. 1-4 as filed and in the specification as filed at paragraph 45 and 46 on page 13. No new matter has been introduced.

Dependent claims 3-11, 13, 14, 17, 18, 20 and 21 have been amended to depend from new independent claim 31. Dependent claims 25-27 have been amended to depend from new dependent claim 32.

Claims 1-10, 13, 14, 16-18, 21 and 24-30 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,775,417 to *Council*. Claims 11, 12, 19, 20, 22 and 23 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Council* in view of U.S. Patent No. 3,144,949 to *Haugwitz*. Claim 15 was rejected under 35 U.S.C. §103(a) as being unpatentable over *Council* in view of U.S. Patent No. 4,360,054 to *Perrella*.

Essentially, it was the Examiner's position that *Council* teaches a drawing machine and method substantially as claimed with the exception of a force splitter and the supporting means including at least one cross-tie having a component departing from the drawing die and leading toward the frame away from the drawing path, which are said to be shown in *Haugwitz*, and a hydraulic cylinder which is said to be shown in *Perrella*.

In particular, the Examiner has taken the position that *Council* teaches a first continuous gripper chain with gripper members for movement along a first path, a second continuous chain with gripper members for movement along a second path and

means for moving the gripper chains together along the two paths for gripping and moving a tube. In the Examiner's view, in order to move the tube between the two chains, an absorbing press-on force must be applied between the two chains with the tube meshed between in order to move the tube along the frame, and any press-on forces produced by the tool chains in *Council* will be absorbed by the frame since it is the frame that supports the tool chains and therefore is sturdy enough to maintain the structure of the apparatus and allow the article to be conveyed.

The rejections are respectfully traversed.

Claim 31

As set forth in new independent claim 31, Applicant's invention provides a drawing machine for drawing a linear workpiece (10) through a drawing die. The drawing machine includes a caterpillar conveyor (1) with a first chain carrier (2), a second chain carrier (3), a first tool chain (6) and a second tool chain (9). The first chain carrier (2), second chain carrier (3), first tool chain (6) and second tool chain (9) are disposed in and form a drawing plane (19) in which the workpiece to be drawn is caused to move.

As further set forth in new independent claim 31, Applicant's drawing machine includes a frame (15) supporting the

caterpillar conveyor (1). At least one of the first chain carrier (2) and the second chain carrier (3) is displaceable relative to the frame (15) via a pressure cylinder (14) rigidly coupled to the frame (15). The frame (15) has a first frame half (16) disposed on a first side (18) of the drawing plane (19) and a second frame half (17) disposed on a second side (20) of the drawing plane (19). The first frame half (16) is substantially identical to the second frame half (17) such that the frame (15) has a substantially symmetrical structure with respect to the drawing plane (19). The first frame half (16) includes a first main beam (23) and the second frame half (17) includes a second main beam (24).

As further set forth in new independent claim 31, each of the first main beam (23) and the second main beam (24) is subjected to a substantially equal tensile load (27, 28) in a respective tensile region (30) when press-on forces are applied to the workpiece (10), thereby providing for a substantially equal distribution of the press-on forces (13) which are absorbed by the frame (15).

Claim 33

As set forth in new independent claim 33, Applicant's invention provides a drawing machine for drawing a linear workpiece (10) through a drawing die. The drawing machine

includes a caterpillar conveyor (1) with a first chain carrier (2), a second chain carrier (3), a first tool chain (6) and a second tool chain (9). The first chain carrier (2), second chain carrier (3), first tool chain (6) and second tool chain (9) are disposed in and form a drawing plane (19) in which the workpiece to be drawn is caused to move.

As further set forth in new independent claim 33, Applicant's drawing machine includes a frame (15) supporting the caterpillar conveyor (1). The frame (15) has a first frame half (16) disposed on a first side (18) of the drawing plane (19), a second frame half (17) disposed on a second side (20) of the drawing plane (19) and a cross bar (21) joining the first frame half (16) and the second frame half (17). The first frame half (16) is substantially identical to the second frame half (17) such that the frame (15) has a substantially symmetrical structure with respect to the drawing plane (19).

As further set forth in new independent claim 33, a first pressure cylinder and a second pressure cylinder (14) are coupled to the frame (15), with at least one of the first and second pressure cylinder disposed on the cross bar (21). The first pressure cylinder (14) displaces the first chain carrier (2) relative to the frame (15) and the second pressure cylinder

displaces the second chain carrier (3) relative to the frame (15).

As further set forth in new independent claim 33, press-on forces (13) departing from the first and second pressure cylinders (14) are absorbed by the frame (15) in a substantially equally distributed manner with one half of the press-on forces absorbed by the first frame half (16) and one half of the pres-on forces absorbed by the second frame half (17).

Claim 32

As set forth in new independent claim 32, Applicant's invention provides a method of drawing a linear workpiece (10) through a drawing die. The method includes the steps of moving the workpiece to be drawn in a drawing plane (19) formed by a first chain carrier (2), a second chain carrier (3), a first tool chain (6) and a second tool chain (9) of a caterpillar conveyor (1). The first chain carrier (2), second chain carrier (3), first tool chain (6) and second tool chain (9) are disposed in the drawing plane (19). The method further includes the step of providing a frame (15) supporting the caterpillar conveyor (1), wherein at least one of the first chain carrier (2) and second chain carrier (3) is displaceable relative to the frame (15) via a pressure cylinder (14) rigidly coupled to the frame (15). The frame (15) has a first frame half (16) disposed on a first side

(18) of the drawing plane (19) and a second frame half (17) disposed on a second side (20) of the drawing plane (19). The first frame half (16) is substantially identical to the second frame half (17) such that the frame (15) has a substantially symmetrical structure with respect to the drawing plane (19). The first frame half (16) includes a first main beam (23) and the second frame half (17) includes a second main beam (24).

As further set forth in new independent claim 32, the method includes subjecting each of the first main beam (23) and second main beam (24) to a substantially equal tensile load (27, 28) in a respective tensile region (30) when press-on forces (13) are applied to the workpiece (10), thereby providing for a substantially equal distribution of the press-on forces (13) which are absorbed by the frame (15).

#### Claim 34

As set forth in new independent claim 34, Applicant's invention provides a method of drawing a linear workpiece (10) through a drawing die. The method includes the steps of moving the workpiece to be drawn in a drawing plane (19) formed by a first chain carrier (2), a second chain carrier (3), a first tool chain (6) and a second tool chain (9) of a caterpillar conveyor (1). The first chain carrier (2), second chain carrier (3),

first tool chain (6) and second tool chain (9) are disposed in the drawing plane (19). The method further includes the step of providing a frame (15) supporting the caterpillar conveyor (1), with a first pressure cylinder and a second pressure cylinder (14) coupled to the frame (15). The frame (15) has a first frame half (16) disposed on a first side (18) of the drawing plane (19), a second frame half (17) disposed on a second side (20) of the drawing plane (19) and a cross bar (21) joining the first frame half (16) and second frame half (17). At least one of the first pressure cylinder and second pressure cylinder is disposed on the cross bar (21). The first frame half (16) is substantially identical to the second frame half (17) such that the frame (15) has a substantially symmetrical structure with respect to the drawing plane (19).

As further set forth in new independent claim 34, the method also includes the steps of displacing the first chain carrier (2) relative to the frame (15) with the first pressure cylinder (14), displacing the second chain carrier (3) relative to the frame (15) with the second pressure cylinder (14), and absorbing press-on forces (13) departing from the first and second pressure cylinders (14) with the frame (15) in a substantially equally distributed manner, with one half of the press-on forces absorbed by the first frame half (16) and one half of the pres-on forces absorbed by the second frame half (17).

The cited references fail to teach or suggest a drawing machine or a method for drawing a linear workpiece as recited in Applicant's independent claims 31-34.

In particular, as recited in Applicant's new independent claims 31 and 32, Applicant's drawing machine and method include first and second chain carriers that are displaceable relative to the frame via a pressure cylinder rigidly coupled to the frame. Moreover, as set forth in claims 31 and 32, Applicant's drawing machine and method includes a symmetrical first frame half including a first main beam and second frame half including a second main beam wherein each of the first main beam and second main beam is subjected to a substantially equal tensile load in a respective tensile region when press-on forces are applied to the workpiece, thereby providing for a substantially equal distribution of the press-on forces which are absorbed by the frame.

As recited in Applicant's new independent claims 33 and 34, Applicant's drawing machine and method include a cross bar joining the symmetric first and second frame and a first and second pressure cylinders for displacing respective first and second chain carriers relative to the frame. At least one of the first and second pressure cylinders is disposed on the cross bar. Moreover, as recited in new independent claims 33 and 34, the

press-on forces departing from the first and second pressure cylinders are absorbed by the frame in a substantially equally distributed manner with one half of the press-on forces absorbed by the first frame half and one half of the press-on forces absorbed by the second frame half.

With respect to the primary reference to *Council*, the Examiner has taken the position that any press-on forces produced by the tool chains in *Council* will be absorbed by the frame since it is the frame that supports the tool chains and therefore is sturdy enough to maintain the structure of the apparatus and allow the article to be conveyed.

Applicant respectfully submits that contrary to the Examiner's position, the frame (31, 37) in the device according to *Council* does not absorb the press-on forces applied to the workpiece as specified in Applicant's claims.

As discussed during the April 30, 2009 telephone interview, the device according to *Council* is a floating system wherein the chain carriers 123, 125 are coupled to sleeve bearings 175, 177 at one end and slider block 95, 97 at the other end. Accordingly, the chain carriers in *Council* are free to move within the frame 31, 37 along rod 171 and rail 93 (See e.g., *Council*, FIG. 3). Consequently, the press-on forces applied to

the workpiece by the hydraulic cylinders 221, 223 in *Council* are not absorbed by the frame 31, 37 in the manner specified in Applicant's claims. Rather, the press-on forces are met by cylinders 221, 223.

In contrast, the drawing machine and method as recited in Applicant's claims describes a rigid system wherein a symmetrical drawing machine frame absorbs the press-on forces applied to the workpiece in a substantially equally distributed manner.

In particular, Applicant's new independent claims 31 and 32 recite:

*a frame (15) supporting said caterpillar conveyor (1), wherein at least one of said first chain carrier (2) and said second chain carrier (3) is displaceable relative to said frame (15) via a pressure cylinder (14) rigidly coupled to said frame (15);*

In the device according to *Council*, the pressure cylinder 221, 223 for applying the press-on forces to the workpiece are not rigidly coupled to the frame, rather each pressure cylinder 221, 223 is coupled to the pair of chain carriers, which are movably mounted in the frame. As a result, the press-on forces are not transmitted to the frame in *Council*.

Moreover, new independent claim 33 recites:

*said frame (15) comprising a first frame half (16) disposed on a first side (18) of the drawing plane (19), a second frame half (17) disposed on a second side (20) of the drawing plane (19) and a cross bar (21) joining said first frame half (16) and said second frame half (17), wherein said first frame half (16) is substantially identical to said second frame half (17) such that said frame (15) comprises a substantially symmetrical structure with respect to the drawing plane (19);*

*a first pressure cylinder and a second pressure cylinder (14) coupled to said frame (15), at least one of said first pressure cylinder and said second pressure cylinder disposed on said cross bar (21), wherein said first pressure cylinder (14) displaces said first chain carrier (2) relative to said frame (15) and said second pressure cylinder displaces said second chain carrier (3) relative to said frame (15);*

*wherein press-on forces (13) departing from the first and second pressure cylinders (14) are absorbed by said frame (15) in a substantially equally distributed manner with one half of the press-on forces absorbed by the first frame half (16) and one half of the press-on forces absorbed by the second frame half (17).*

The feature of at least one of the first and second pressure cylinders being disposed on the frame cross bar is likewise recited in new independent method claim 34.

Contrary to the device and method recited in Applicant's claims 33 and 34, neither of the pressure cylinders 221, 223 of Council are disposed on a cross bar joining the symmetric frame halves. Rather, as described above, the pressure cylinders of

*Council* are coupled to the pair of chain carriers, which are movably mounted in the frame.

Accordingly, *Council* fails to teach or suggest a drawing machine or a method for drawing a linear workpiece wherein press-on forces applied to a workpiece are absorbed by a frame in the manner recited in Applicant's independent claims 32-34.

Moreover, *Council* fails to teach or suggest a structure wherein the pressure cylinder for applying the press-on forces is rigidly coupled to the frame or wherein a pressure cylinder is disposed on a cross bar joining symmetric first and second frame halves.

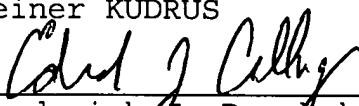
The secondary references to *Haugwitz* and *Perrella* have been considered, but are believed to be no more relevant. In particular, neither of the secondary references teach or suggest a drawing machine or method for drawing a linear workpiece through a drawing die having a first frame half being substantially identical to a second frame half such that the frame comprises a substantially symmetrical structure with respect to the drawings plane, as set forth in Applicant's claims.

Accordingly, for at least the reasons set forth above, it is believed that independent claims 31, 32, 33 and 34 are allowable over the cited references, either alone or in combination. Moreover, claims 3-23, which depend directly or indirectly on claim 31, and claims 25-30, which depend directly or indirectly on claim 32, are believed to be allowable for at least the reasons set forth for independent claims 31 and 32.

The listing of claims as presented herein includes four (4) independent claims and thirty one (31) total claims. Enclosed herewith is a check in amount of \$136.00 representing the surcharge for a small entity for one (1) independent claim in excess of three (3) (\$110.00) and one (1) additional claim over twenty (20) (\$26.00), with the surcharge for ten (10) claims over twenty (20) having been paid concurrently with the filing of the application. The Commissioner is hereby authorized to charge any additionally required fees or to credit any overpayment in connection with this submission to Deposit Account 03-2468.

In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,  
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